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ABSTRACT

This final report explains the purpose of the Ohio Occupational Research and Development Coordinating Unit and its activities and accomplishments from its inception July 1, 1965, to August 31, 1969. The three specific objectives of the Ohio Unit are: (1) to gather data concerning employment, emerging occupational trends and future job projections, (2) to identify issues and problems relating to the nature and place of vocational education, and (3) to stimulate and encourage, coordinate, facilitate, and disseminate information concerning occupational education research and development activities. Attention is given to each area of activity as it contributes to the extension and improvement of vocational education in Ohio. Major activities are considered under the headings of (1) Organization and Staff, (2) Stimulating Research, (3) Facilitating Research, (4) Disseminating Research, (5) Coordinating Research, and (6) Developing Vocational Education Programs. The Ohio Unit was involved in numerous minor activities and also cooperated with other agencies in contributing to the overall activities of vocational education. [Not available in hard copy due to marginal legibility of original document.] (GR)

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MARTIN ESSEX
SUPERINTENDENT OF
PUBLIC INSTRUCTION

STATE OF OHIO
DEPARTMENT OF EDUCATION
COLUMBUS
43215

DIVISION OF VOCATIONAL
EDUCATION

612 STATE OFFICE BUILDING

BYRL R. SHOEMAKER
DIRECTOR

October 16, 1969

Mr. Lawrence Braaten
Research Associate
Organization & Administration
Studies Branch
Bureau of Research Dover
Department of Health, Education, and Welfare
Office of Education
Washington, D.C. 20202

Dear Mr. Braaten:

Please find enclosed 3 three copies of the Final Report for the Ohio Occupational Research and Development Coordinating Unit, I hope this report, in an informal nature, explains our activities.

Very truly yours,

C. O. Tower

C. O. Tower
Supervisor
Research and Survey Services

COT/sk
Enclosures

VT010096

FINAL REPORT

Contract No. OE-5-85-131

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
OFFICE OF EDUCATION

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OHIO
OCCUPATIONAL RESEARCH AND DEVELOPMENT
COORDINATING UNIT

August 31, 1969

U.S. DEPARTMENT OF
HEALTH, EDUCATION, AND WELFARE

Office of Education
Bureau of Research

FINAL REPORT

OHIO

OCCUPATIONAL RESEARCH AND DEVELOPMENT COORDINATING UNIT

Contract Number OE-5-85-131

Period of Contract

June 1, 1965 to August 31, 1969

STATE OF OHIO

DEPARTMENT OF EDUCATION

DIVISION OF VOCATIONAL EDUCATION

612 State Office Building
65 South Front Street
Columbus, Ohio 43215

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PREFACE

With the passage of the Vocational Education Act of 1963, which provided the stimulation for more and better vocational education for high school youth and adults, all public educational agencies in Ohio were challenged with new and additional responsibilities for the provision of such programs. The expanding efforts called for increased research and educational programming and a more effective communication of ideas and concepts.

In response to a request from the Division of Vocational Education, Department of Education, State of Ohio, the United States Commissioner of Education, under provisions of Section IV (c) of the Vocational Education Act of 1963, authorized the funding of an Ohio Occupational Research and Development Coordination Unit within the Division of Vocational Education.

The first Contract No. OE-5-85-131 for the Ohio Occupational Research and Development Coordination Unit in the amount of $93,142 was from June 1, 1965 to November 30, 1966, with the stipulation that work begin September 1, 1965. On June 13, 1966, a proposal for the continuation of the Ohio Occupational Research and Development Coordination Unit was transmitted to the United States Commissioner of Education for support through authorization of the Bureau of Research. The continuation proposal as a grant was approved and funded in the amount of $89,190. This second contract was for the period November 30, 1966 to August 31, 1969.

The purpose of the Ohio Unit was to extend and develop opportunities in occupational education for the citizens of the State.

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INTRODUCTION

Since the Ohio Occupational Research and Development Coordinating Unit was established within the Division of Vocational Education, State Department of Education specifically to provide for research and development of vocational and technical education in Ohio, the following report of the Ohio Unit is indicative of its purpose, activities and accomplishments from its inception July 1, 1965 to August 31, 1969. And since the purpose of the Ohio Unit was to extend and develop opportunities in occupational education for the citizens of the State of Ohio specific objectives became: 1. Survey available data concerning employment, emerging occupational trends and future job projections as a basis for planning vocational programs, curricula and facilities, and teacher education, recruitment and placement within the State; 2. Identify issues and problems relating to the nature and place of vocational education in the educational program of the State school system and determine the contribution which occupational research and development could make toward the resolution of these problems and 3. Stimulate and encourage, coordinate, facilitate and disseminate information concerning occupational education research and development activities in the Division of Vocational Education, local school districts, colleges and universities, non-profit organizations with the State Department of Education and coordinate such research activities with those conducted outside the State.

This final report deals with the development of the Ohio Occupational Research and Development Coordination Unit and its accomplishments in meeting

the above objectives. Attention is given to each area of activity as it contributes to the extension and improvement of vocational education in Ohio.

Material presented will be relative to purpose, organizational framework for attainment of the objectives and development of occupational research and Development Coordination Unit Staff. Major activities are considered under the headings of, 1. Organization and Staff, 2. Stimulating Research, 3. Facilitating Research, 4. Disseminating Research, 5. Coordinating Research, and 6. Developing Vocational Education Programs. Major activities only highlight the most notable events of the Unit's accomplishments. The Ohio Unit found itself involved in many, many activities too small to list. They were meetings in which the unit cooperated with other agencies in a common cause and in which the unit was not completely responsible, or in which it contributed to the overall activities of Vocational Education. Such activities were; the Governor's Conference on Vocational and Technical Education, the annual meetings of the Vocational Youth Clubs, State Fair, Ohio Vocational Association, American Vocational Association, annual Division of Vocational Education, Department of Education, staff workshop, teacher workshops for vocational services, state Vocational Advisory Counsel meetings,Research Coordinating Unit meetings, requested committee service for Division of Vocational Education and Center for Education Statistics, United States Office of Education, Local school Directors of Vocational Education meetings and workshops, Joint Vocational School superintendent meeting, local school supervisors of Vocational Education Workshop and meeting, meetings with boards of education and lay public, political groups and citizens groups. A more detailed list of activities were included in the monthly and quarterly reports to the United States Office of Education.

ORGANIZATION AND STAFF

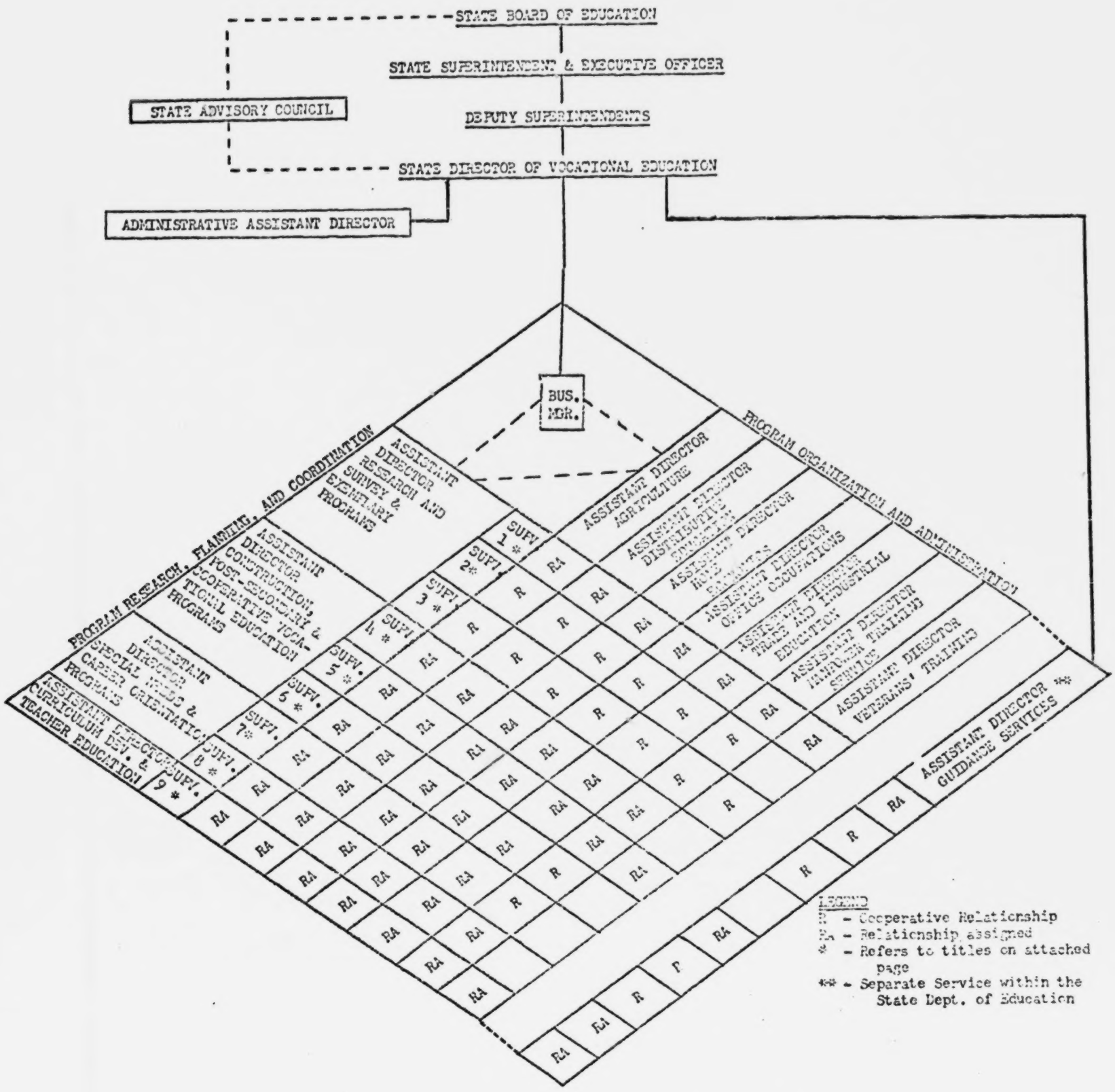
Since the major function of the Ohio Occupational Research and Development Coordination Unit was to extend and improve vocational education within the State, the Ohio Occupational Research and Development Coordination Unit was organized as an integral and functional part of the Division of Vocational Education. Offices were provided within the Division of Vocational Education. This location provided the opportunity to be well informed of the current developments within the Division of Vocational Education and to act in a direct relationship with the Director of the Division of Vocational Education.

From the simple organization of the Ohio Occupational Research and Development Coordination Unit the Ohio Unit has developed into an integral part of the Division of Vocational Education responsible for research and survey, evaluation and exemplary programs of the program research planning and coordination phase of the Division of Vocational Education. In this framework, as shown in the diagram of the Organization of Ohio State Board Staff for Vocational Education, the Ohio Unit will have supervisors under the assistant director in the areas of: 1. Statistical Data for Program Planning Budgetary Systems and Reporting, 2. Research Proposals, Exemplary Programs and Program Evaluation, and 3. Labor Market Analysis and Manpower Projections. Each supervisor will head a staff committee with a representative from each of the vocational services.

Although the Ohio Unit is organized as a service of the Division of Vocational Education of the State Department of Education, the professional and supportive personnel of the Unit have been serviced within the Ohio State University and the Division of Computer Services of the State Department of Education through contractual agreements.

During the funding period the professional staff members have improved their

ORGANIZATION OF OHIO STATE BOARD STAFF FOR VOCATIONAL EDUCATION


STATE BOARD OF EDUCATION
STATE SUPERINTENDENT & EXECUTIVE OFFICER
STATE ADVISORY COUNCIL
DEPUTY SUPERINTENDENTS
STATE DIRECTOR OF VOCATIONAL EDUCATION
ADMINISTRATIVE ASSISTANT DIRECTOR
BUS. MGR.
PROGRAM RESEARCH, PLANNING, AND COORDINATION
PROGRAM ORGANIZATION AND ADMINISTRATION
ASSISTANT DIRECTOR RESEARCH AND SURVEY & EXEMPLARY PROGRAMS
ASSISTANT DIRECTOR CONSTRUCTION, POST-SECONDARY & COOPERATIVE VOCATIONAL EDUCATION PROGRAMS
ASSISTANT DIRECTOR SPECIAL NEEDS & CAREER ORIENTATION
ASSISTANT DIRECTOR CURRICULUM DEV. & TEACHER EDUCATION
ASSISTANT DIRECTOR AGRICULTURE
ASSISTANT DIRECTOR DISTRIBUTIVE EDUCATION
ASSISTANT DIRECTOR HOME ECONOMICS EDUCATION
ASSISTANT DIRECTOR OFFICE OCCUPATIONS
ASSISTANT DIRECTOR TRADE AND INDUSTRIAL EDUCATION
ASSISTANT DIRECTOR HANDICAPPED TRAINING SERVICE
ASSISTANT DIRECTOR VETERANS' TRAINING
ASSISTANT DIRECTOR ** GUIDANCE SERVICES
SUPV. 1 *
SUPV. 2*
SUPV. 3 *
SUPV. 4 *
SUPV. 5 *
SUPV. 7*
SUPV. 8 *
SUPV. 9 *
R
RA

LEGEND
R - Cooperative Relationship
RA - Relationship assigned
* - Refers to titles on attached page
** - Separate Service within the State Dept. of Education

RESEARCH, PLANNING, AND COORDINATION SUPERVISOR RESPONSIBILITIES

*1. Manager of Statistical Data

*2. Research Proposals and Exemplary Programs

*3. Labor Market Analysis/Manpower Projections

*4. Construction and Equipment

*5. Post-Secondary Education Programs

*6. Cooperative Vocational Education Programs

*7. Disadvantaged Youth and Handicapped Programs

*8. Residential Vocational Education, Work Study, and Career Orientation Programs

*9. Teacher Education

understanding of research activities by attending and participating in university classes, state and national seminars, local, state, and national workshops, and national committees.

Over 50 such activities include; national seminars on evaluation, U.S. Office of Education workshop, editorial advisory board of American Technical Society, consultant for Center for Education Statistics, U.S. Office of Education, Division of Vocational Education workshop, National Committee for the Development of a Vocational Education Taxonomy, pre-service and in-service state workshops for vocational education superintendents, directors, supervisors and teachers. Research Coordinating Unit Seminars, U.S. Office of Education seminars on program planning and budget systems, American Vocational Association and Ohio Vocational Association conventions, and regional and national conferences of the vocational education services.

Of the nine professional staff members holding a master's degree, four have completed their doctor's degree and two more will complete their degree in 1970. Two have become Research Coordinating Unit directors and two have taken positions as teacher educators in vocational education at universities.

STIMULATING RESEARCH

A concern of the Ohio Research Coordination Unit has been the stimulation of research in vocational education. In accomplishing this task, Unit personnel have conferred with interested persons in identifying occupational training needs of youth and adults in Ohio. Numerous presentations have been made in workshops, seminars, staff meetings, foreign visitors, university professors, and general gatherings at universities, trade associations, citizen assemblies, state fair, county and local school organizations, vocational advisory committees and the like. The Ohio "R.C.U. Notes" assisted the Unit to extend its work by means of written material sent to individuals within and

outside Ohio. Four issues of the "Notes" have been distributed which concentrated on the topics of the functions of the Unit, proposal evaluation and the ERIC system. This publication has been complimented in stimulating research by vocational community surveys, reports and numerous written communications with educators throughout the country.

Promotion and review of research proposals accounted for an important function of the Unit. Efforts were set forth to stimulate research activities at local, county and state levels. Many of these undertakings in turn stimulated the development of research proposals for federal funding. In order to stimulate research through these proposals, the Ohio Occupational Research and Development Coordination Unit from time to time studied procedure for preparing abstracts and proposals and prepared briefs to assist researchers. Copies were distributed throughout Ohio. The Unit staff assisted in encouraging, identifying, formulating and/or evaluating over 200 such research projects and proposals. This work was carried out with a variety of persons and organizations at all levels of education. Most proposals were in accordance with the Vocational Education Act of 1963, Section IV(c) or Title III of the Elementary and Secondary Education Act. Many of these research endeavors have been or are in the process of being funded by the U.S. Office of Education and other funding agencies.

Further stimulation of research work was accomplished with graduate students. They were given assistance in identifying problems and outlining studies. Statistical design and treatment of data advice and direction were often given to students through seminar sessions and/or on individual basis. More than twenty-five such studies have been reviewed by this Unit.

In brief, the Unit has assisted individual researchers in vocational education and related fields seeking advanced degrees, business and industry

in studying labor supply and demand, vocational education training and related areas, and public school systems in developing vocational education programs. In general, assistance has been given through three techniques:

> Discussions before groups concerning the need for research in vocational education; the sources of information available to researchers today, AIM, ARM, ERIC, etc.; and various studies from the areas in which they are interested.
>
> Intensive discussion with the individual or group of individuals considering research.
>
> Assistance to researchers preparing a study or a proposal to be submitted to a funding agency.

Over 750 conferences have been held relative to research activities.

FACILITATING RESEARCH

It is often difficult to ascertain just where stimulation of research ends and facilitation begins. Many times facilitation is the last thrust in stimulation.

The Unit answered questionnaires concerning Vocational Education in Ohio from such sources as, Research Coordinating Units in other States, graduates of universities doing research work, private research organizations, chambers of commerce, and state departments of education.

The Unit assisted in the preparation of research proposals for the Division of Vocational Education, Department of Education, State of Ohio to the United States Office of Education. During the last year there were five of the latter:

> Preparation of Teachers of Specialized Agricultural Occupations for Students from Low-Income Families.
>
> Preparation of Media Specialists for Programs Involving Students from Low-Income Families.
>
> Preparing Professional Personnel for Science in Technical Institutes of Agriculture.
>
> Teacher Education Proposal (In-Service for Business Office Education).

Establishment of a Multi-Regional Vocational-Technical Education Curriculum Development Center.

The Unit also supplied information about vocational education to many groups, including political organizations as the Grange, professional organizations in the State, labor organizations, local and county school administrators, legislators, teachers, non-school governmental agencies, representatives of state governments and federal agencies as United States Bureau of Employment Service.

The Unit procured vocational education documents requested by Educational Resources Information Center at the Center for Research and Leadership Development in Vocational and Technical Education at the Ohio State University as well as submitted other documents for their consideration.

The Unit cooperated with the United States Bureau of Employment Service in studying the priority for occupational surveys in Ohio.

The Ohio Unit cooperated with the University of Wisconsin in its project with the U. S. Office of Education in developing a "National Vocational Education Directory" containing each school in the United States with vocational curriculum offerings.

Responsibility for conducting the University of California (Berkeley) project in Ohio on "Research and Development in State Administration of Vocational Education" was assumed by the Unit. The meetings were arranged by the Research Coordinating Unit Director. The Unit was further responsible for gathering materials, follow-up work, and writing of the final report for the project.

COORDINATING RESEARCH

The Ohio Unit has assisted in coordinating vocational education research activities. This work has been carried out both at the national and state levels by corresponding with other research coordinating units, state

departments of education, universities, and local school districts in answering questionnaires, letters, inquiries and requests for information and materials. The Unit has worked with the United States Office of Education and the Director of the Center for Research and Leadership Development in Vocational and Technical Education and the various services of the Division of Vocational Education in identifying current projects and areas of concern in vocational education.

The Unit assisted the Center for Educational Statistics conducting the samply study of the profile of vocational education. These efforts have proven fruitful in focusing upon needs for improvement and extension of the total vocational program.

DISSEMINATING RESEARCH

The Ohio Unit participated in in-service workshops for the vocational teachers. Presentations were made stressing sources for locating recent research findings in vocational education through the modern facilities of Abstracts of Instructional Materials and Abstracts of Research Materials and the abstracts listed therein, and the unique facilities of the Educational Research Information Center and micro-fiche located at the Center for Research and Leadership Development in Vocational and Technical Education at The Ohio State University.

The Unit assisted the Center for Educational Statistics conducting the sample study of the profile of vocational education.

In order to present the Vocational Education Act of 1968 amended, to the public school systems and the professional staff, the Division of Vocational Education scheduled a series of meetings in Ohio. The Unit participated in presenting the provisions for research and the work of the Unit.

In order to present the New State Plan for Ohio, to the public school

systems and the professional staff, the Division of Vocational Education scheduled a series of public meetings throughout Ohio. The Unit participated by presenting the provisions for research and the work of the proposed Research and Survey, Exemplary Programs and Evaluation Program Service.

In order to present School Finance Procedure to the financial departments of the boards of education of the school districts in Ohio, the Division of Finance, Department of Education, scheduled a series of meetings throughout Ohio. The Unit participated by presenting the provisions for vocational education.

DEVELOPING VOCATIONAL EDUCATION PROGRAMS

The major activities of the Ohio Occupational Research and Development Coordination Unit were directed toward the development, expansion and improvement of vocational education in Ohio. Major thrusts were made in a number of directions.

The Ohio Unit synthesized the procedure of conducting a community vocational survey. It designed a Community Vocational Study Report consisting of: Part I, Preliminaries and Part II, Text: Introduction, nine chapters and summary; basic county, state, and national information on pertinent demographic, financial, and employment aspects; student vocational interest inventory; local survey findings and recommended vocational programs for each--agricultural education, business education, distributive education, home economics education, and trade and industrial education, and recommended physical facilities which has taken into consideration vocational programs for each vocational field; number of programs, grade levels, pupil capacities, number of shops and laboratories, related and academic class rooms, floor area requirements for each instructional facility; site area; vocational and academic personnel, building and equipment; site costs; architects fees; contingencies;

operating costs; a plan of action for establishing a joint vocational school; and a plan of financing the construction and operation of the school.

During the funding period of the Ohio Unit, 17 community vocational studies were made involving 36 of the 88 counties in Ohio. A total of 234 school districts of the 643 school districts in Ohio were included in the studies. The surveys provide for 24,814 students at a cost of $80,866,414. As a result of these studies, 15 vocational schools have been constructed and are in operation and 6 more will be constructed and in operation by fiscal year 1971. With the eight large cities, this covers one-half of the State of Ohio -- 29 of the 56 proposed vocational school districts. Within the next two years, as a result of the effort of the Ohio Unit, Ohio should be blanketed with 56 of these districts. Each report also presented estimated vocational enrollments, teacher needs, vocational programs, vocational program enrollments, cost of site, building, equipment, and bond tax rate, cost of operating, state reimbursement and operating tax rate.

The Ohio Unit initiated the development of a set of guidelines, instruments, and aids for use by boards of education in the selection of building sites for joint vocational schools.

A council was appointed by the Governor of Ohio to study governmental agencies in Ohio. Schools and Federal Aid to Education were two areas covered by this "Little Hoover Commission". The Unit was requested by the State Department of Education to form a task force to study the 32 recommendations, evaluate them, and make recommendations for implementation with a time schedule for priorities. The report became known as "Deliberations of the Practitioner's Panel on Recommendations for Administration and Federal Aid to Education Contained in Public School Survey and Recommendations by Council for

Reorganization of the Ohio State Government".

The Ohio Unit abstracted Ohio school laws concerning:

Statutes Concerning Joint Vocational School Districts.

Statutes Concerning Technical Institutes and Community Colleges.

The Ohio Unit proposed Adjustment of Section 3317.13 to provide for proper placement of Trade and Industrial Education teachers on State salary schedule.

The Ohio Unit studied the implications of a new law, which requires that a pupil must receive an adequate vocational education before dropping out of school and that all public school districts must offer an adequate vocational education program, by analyzing several proposals of "an adequate vocational education" for 50 school systems in Ohio.

The Ohio Unit designed an analysis for a questionnaire sent by State Superintendent of Public Instruction to superintendents of public school systems as a result of new legislation which requires all high schools to have an adequate vocational education program and all pupils to have a vocational education if they withdraw prior to graduation.

The Ohio Unit assisted in the compilation and reporting of a statewide survey of the methods Ohio high schools intend to employ in making vocational education available to all high school students.

The Ohio Unit studied a minimum vocational education program for an Ohio school district and the number of school districts in Ohio that could offer a minimum vocational program without consolidation.

The Ohio Unit prepared for the School District Reorganization Study of the State of Ohio "Organizational Pattern for Vocational Education Programs" showing five patterns of district organizations for vocational education at the secondary level with strengths and limitations of each.

The Ohio Unit studied innovations, new programs, new ideas, new teacher preparation techniques in Ohio and distributed the information on these in "Some Highlights in Ohio".

The Ohio Unit initiated a conference to determine ideas and needs of agricultural education as envisioned by:

The Center of Vocational and Technical Education,

Department of Agricultural Education,

State Vocational Agricultural Supervisors.

The Ohio Unit developed a breakdown of all Ohio employment persons into broad occupational categories related to each of the vocational service areas and the professional levels.

The Ohio Unit compiled and prepared data concerning educational levels of Ohio population by age categories.

They gathered data of Ohio pursuant to socio-economic conditions as it applies to education in the state by counties.

The Ohio Unit studied certain aspects of the vocational education programs in Ohio and prepared the following reports: "Status of the Vocational Education Program in Cleveland, Ohio", "Eight Cities Share of Ohio Schools", "Enrollment in Six Major Cities in Ohio", and "Aggregated Constructed Allocation to Cities and Exempted Villages - 1965-68 inclusive".

The Ohio Unit developed and tested a procedure for the collection of data relative to the characteristics of disadvantaged youth in Ohio high schools.

The Ohio Unit developed an instrument for the purpose of determining the importance which high school administrators place upon serving the disadvantaged and the importance of selected characteristics of vocational education programs to serve these students.

The Ohio Unit gathered and compiled data in high schools of eight Ohio

cities relative to the characteristics of youth with special needs.

The Ohio Unit made a study of vocational education program enrollments in the 28 counties of the appalachian region in Ohio to guide the State Appalachian Office in the development of federal facilities.

The Ohio Unit studied the holding power of the schools in 28 counties of the appalachian region in Ohio to guide systems in developing vocational schools.

The Ohio Unit studied the earning capacity of Ohio Vocational Co-op students.

The Ohio Unit made a study of the Estimated Economic Value of the 43,694 Registered Unemployed - Age 16 thru 21 years - with the Ohio Bureau of Employment Service on December 1, 1968 and found these facts:

> Ohio has a large number of young people in need of vocational education and capable of profiting from a vocational education who live in the concentrated population areas where training facilities and a broad vocational education program could easily be made available within travel distance of their homes.
>
> There is a great employment potential (labor demand) close to this large group of capable young unemployed people if only they were vocationally trained.
>
> Together these 43,694 will produce during their working years for Ohio, $7,766,791,175.
>
> Together these 43,694 persons will pay $601,926,316 in taxes toward the upkeep of Ohio.

For budget and program planning the Ohio Unit studied the enrollments per unit of reimbursement in Ohio to determine cost per pupil by vocational programs.

The Ohio Unit in program planning estimated future vocational enrollments in Ohio and yearly enrollments by vocational services for a 5-year period.

As a result of the study of enrollments per unit of State Foundation reimbursement in Ohio, the Unit began a study of units of reimbursement and

enrollments by vocational services, program levels and types of school districts for program planning and budgeting and for predictive purposes. This study will be from FY 1964-FY1973. This, when complete, will be a data bank on these five items for the State of Ohio.

The Ohio Unit analyzed the vocational reporting system in the State of Ohio and designed and developed a uniform reporting system for all of the seven vocational services in Ohio. A single reporting form replaced the different report forms used by each individual service and the different report forms used by each service to open and to close a program. To implement the reporting system, the Unit disseminated information concerning the new instructional code numbers and their use, developed a uniform set of instructions for the new form, developed a coding system for each school in the State of Ohio compatible to the State coding system and the Federal reporting system, designed and developed a uniform program type code for all vocational services for the State of Ohio to replace the five program type codes used by each vocational service.

From this system the Ohio Unit designed and prepared by automated processing two reports:

> "Vocational Units by School Districts, by Services" - a 37-page statistical report for the Division of Administration, Ohio State Department of Education, by which they approved state foundation units for vocational education programs to local school districts.
>
> "Listing of Vocational Units by Teachers, by School Districts" - a 189-page statistical report for the Division of Finance, State Department of Education, by which they distributed all state foundation funds for vocational education programs to local school districts.

From the uniform vocational education data gathering and analysis system designed and developed by the Unit for all seven vocational education program services in Ohio, the Unit designed and prepared:

"A Vocational Education Program" - a 1144-page statistical report for the Division of Vocational Education. It reported by school district, by vocational service, by instructional program and by various arrangements of totals much detail and summary information about every vocational education program in the State of Ohio. It is considered an encyclopedia on operation. The report is used in program planning.

From this data gathering and analysis system a Vocational Education Program Report which presents information for each vocational service by school district, by school, by instructional program and by various arrangements of totals much detail and summary information about vocational education programs was designed and prepared through automated processing by the Unit for:

Agriculture Education	- 389 pages,
Business Office Education	- 418 pages,
Distributive Education	- 247 pages,
Health Occupations Education	- 61 pages,
Home Economics Education	- 593 pages,
Technical Education	- 36 pages,
Trade and Industrial Education	- 319 pages.

The vocational supervisors use them in program planning with each school district and for the state as a whole.

From the uniform vocational education reporting system designed and developed by the Ohio Unit for the seven vocational education services and programs, the Unit prepared U.S.O.E. 4047-1, 4045, and 4046, 4047-3, and 4048.

The Ohio Unit, after studying the finance of the Division of Vocational Education, vocational needs and labor demands for Ohio by occupational levels for replacement and expansion, unemployment, classification of employment by ages, sex and occupational levels, labor demands by employment sectors, prepared the Projected Activities Report Plans for the Division of Vocational Education, Department of Education, State of Ohio.

The Ohio Unit developed a revised cost plan for blanketing the State of Ohio with technical institutes to accommodate 100,000 technical pupils at a

cost of approximately $200,000,000.

The Ohio Unit prepared the Investment Plan for Vocational Education Facilities in the State of Ohio for 56 Vocational Education Districts. The Plan is based upon a vocational enrollment of 40% of public and non-public high school and educable mentally retarded pupils in grades 11 and 12 in the State of Ohio. This study treated enrollments, capital outlay and operating costs for the State and local vocational school districts. The 275 page Plan distributed the cost by local, State and Federal agencies over two bienniums 1969-71 and 1971-73. The plan would add facilities for 129,020 pupils at a cost of $423,605,984 by 1972. The document put planning into the formation of vocational school districts in Ohio, based upon six criteria:

> Present school district lines are desirable boundaries in forming a vocational school district.
>
> Existing vocational school districts are nuclei around which adjoining school districts may be affixed.
>
> County lines are desirable boundaries in forming a vocational school district.
>
> Distance, highways, and travel time are factors limiting vocational school districts.
>
> Community centers and population characteristics are features in organizing vocational school districts.
>
> A vocational pupil population of 1,250 is a desired enrollment for a vocational school. Where larger vocational districts may be formed, it will increase both the tax base and pupil population and make possible a greater breadth of vocational offerings.

The Ohio Unit, after studying the vocational needs and labor demands for Ohio by occupational levels for replacement and expansion, unemployment, classification of employment by ages, sex and occupational levels, labor demands by employment sectors, prepared the projected activities report plans for the Division of Vocational Education for the fiscal year 1970 and for the five years 1970-1974. These are Parts III and II respectively of the

Ohio State Plan for Vocational Education. For this planning a Vocational Program Planning Report for each school district in the State of Ohio to assist them in planning their vocational program for the next year and in reporting their plan to the State Department of Education, Division of Vocational Education for summation into the State Plan was also designed and prepared by the Unit.

The Vocational Education Act of 1968 amended provided that policies and procedures be set forth by the States in the distribution of Federal funds to local educational agencies in the States which policies and procedures shall give due consideration to a number of specific factors. The criteria were:

Manpower Needs and Job Opportunities.
Rate of Unemployment Compared to State Average.
Percent of Unemployment that Are Youth Compared to State Average.
Number of Children from Low Income Families Per Thousand Compared to State Average.
Local Agency's Wealth Per Student Compared to State Average.
Local Agency's Per Pupil Cost of Education Compared to State Average.

The Ohio State Plan for Vocational Education, revised 1969, calls for a differentiation in the distribution of funds to school districts on the basis of needs. The Ohio Research Coordinating Unit designed the Plan based upon elements which measure vocational education needs of a community. They are:

Manpower Needs and Job Opportunities.

Vocational Education Needs.
- Rate of Unemployment compared to state average.
- Percent of unemployment that are youth compared to state average.
- Number of children from low income families per thousand compared to state average.

Relative Ability to Pay.
- Local agency's wealth per student compared to state average.

Relative Costs of Programs, Services, and Activities
- Local agency's per pupil cost for education compared to

the state average.

The Ohio Unit designed the formula and prepared a priority rating for the 683 school districts in Ohio.

The Ohio Unit studied the new vocational reporting system by the United States Office of Education, designed the procedures, and prepared the report forms by regular, disadvantaged and handicapped, as well as designed and prepared state reports for travel data, travel cost, travel reimbursement and local school expenditures.

SUMMARY

Explorations have been initiated in many areas of concern and projects and/or activities have been instituted.

It is envisioned that current Ohio Unit activities will increase in scope and depth as organizational procedure becomes established and the dissemination of research and development materials increase within the State. The Ohio Unit will continue efforts for the improvement, development, and extension of occupational education for all levels in the State of Ohio thereby increasing individual and collective capacity, efficiency and effectiveness.